

MINES AND QUARRIES

■ Early Egyptian building materials

Early Egyptian buildings were made of clay and reeds. Structures needing more support, such as mats and woven lattices, had bundles of reeds lashed together set in clay bases on either side. Wood was quite scarce, imported from Lebanon even in ancient times. By the First Dynasty, tombs and palaces were made of sun-dried mud-brick. Even later when palaces, tombs, and temples were made from stone, mud-brick was used to make the homes of the Egyptians.

■ Stone for building

The Step Pyramid at Saqqara was the first known monumental stone building in the world, constructed during the Third Dynasty. After its construction, stone was used almost exclusively for tombs and temples. Stone was transported on the Nile from quarries in Nubia—within Egypt itself—the eastern desert regions, and the Sinai.

Nubia and the eastern desert supplied the majority of diorite, dolerite, schists, porphyries, basalts, granites, quartzites and other hard stones although there were limited sources for some of these along the Nile. Limestone came from Tura near Memphis, sandstone and alabaster (calcite) mainly from Hatnub, and pink granite from Aswan.

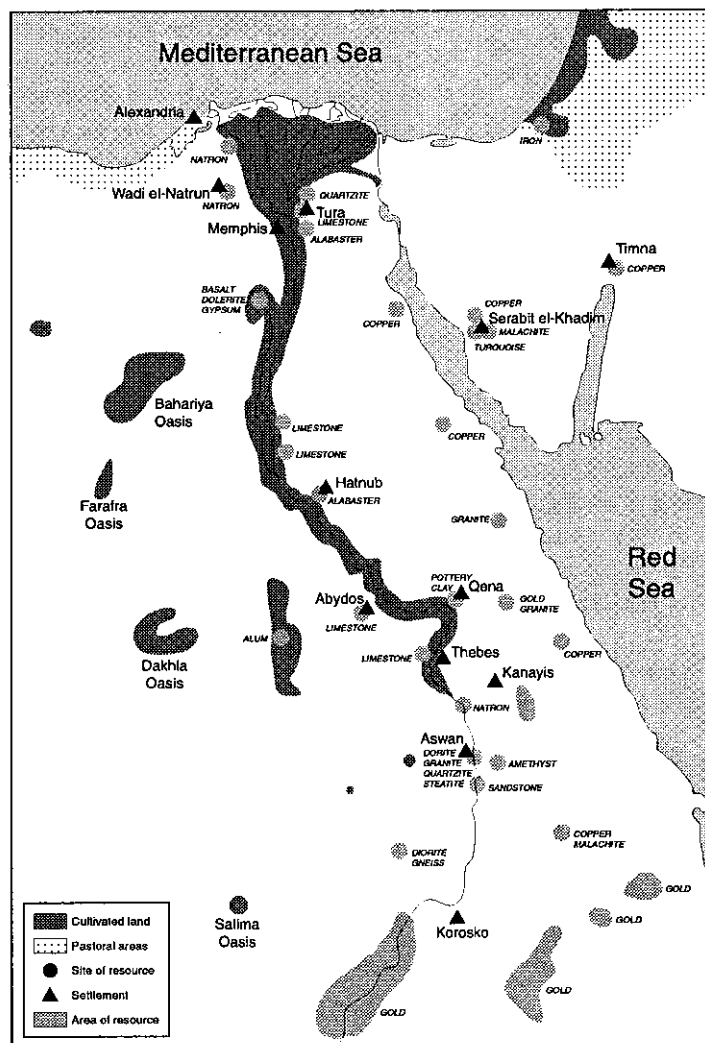
■ Quarrying

Quarries in Egypt belonged to Pharaoh, and Pharaoh determined which areas would be worked. Quarrying was done without the aid of iron tools. Grooves were cut in the rock with either a copper chisel and mallet or a diorite pick. Then wooden wedges were driven into the groove, and water was poured over them, causing the wood to swell and split the rock. Another method involved fire in the grooves to heat the rock. Cold water poured on the heated rock would cause stone to crack. The stones were rough dressed at the quarry, then hauled by sledges to the Nile, where they were transported to their designated location. Convicted criminals and prisoners were sent to some isolated quarries to do hard labor.

■ Other valuable minerals

Necessary to the embalming of mummies was the natron found near Wadi Natrun and at another site south of

Thebes. Metals such as gold came from mines in Nubia; iron (which was not used until almost the end of the dynastic period) from Meroe, the Sinai, and near Elephantine; tin, lead, and, copper came from the eastern desert. Egyptian control of the nearest gold sources was a main reason for their influence in the ancient world. One foreign ruler wrote to Pharaoh how it was well known that in Egypt gold was as common as dust. Turquoise and emeralds were mined in the eastern desert. Other precious commodities were obtained through trade. Examples: lapis lazuli, a beautiful blue stone from Afghanistan; silver from Syria; and obsidian, a volcanic black glass, from southern Ethiopia.



FARMS ON THE NILE

■ Introduction

Most ancient Egyptian farmers were not wealthy; therefore, they typically rented small plots of land from noblemen. Farming families generally lived in one story mud-brick houses often with only one room. The house might be furnished with wooden stools, reed mats, and a few pottery jars to carry water and store food. Outside in the courtyard would be the mud-brick bee hive-shaped ovens to bake bread, one of the staple foods of the Egyptians.

■ Family chores

The family worked together to do most tasks on the farm, though donkeys and oxen were used for heavy work. Boys helped in the fields while learning how to farm. Girls helped their mothers grind grain, bake bread, make meals, and weave cloth. During the harvest, all went to the fields to gather in the crops and help thresh and winnow the grain.

■ Plowing

As soon as the floodwaters from the Nile went down, farmers plowed their fields, before the sun baked the earth too hard to plow. Oxen were used to pull the plow, which was a heavy forked stick. In

earliest times the plow was attached to the oxen's horns, but later a shoulder yoke made plowing easier. Hoes were used to break up the large clods of earth; then seeds were scattered on the soil. While the earth was still muddy, pigs or sheep would trample the seed into the ground.

■ Irrigation

Canals were dug to allow the water from the Nile to reach more of the fields. Ditches divided each field into small squares. Water was lifted into these ditches by a shaduf. A shaduf had a long pole balanced on top of a crossbar. On one end of the pole was a rope and a bucket; on the other end was a counterweight. Manually the bucket was lowered into the water. When full, the counterweight swung it up onto the level of the ground.

■ Harvesting

Flint-bladed wooden sickles were used in harvesting. The grain was taken to be threshed either with flails in human hands, or by the feet of oxen, donkeys, or sheep. Threshing separated the straw and husks from the grain. Then the separated grain was winnowed. Winnowing involved throwing the grain up into the air so the chaff would blow away.

